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Ryoji Funahashi

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02/18/2009

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
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EXAMINER

SALZMAN, KOURTNEY R

ART UNIT

PAPER NUMBER

1795

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### **DETAILED ACTION**

1. The proposed amendments would result in the same rejections being maintained in light of the response to the arguments below.

#### ***Response to Arguments***

2. Applicant argues on pages 9 and 10 references ALEXANDER and MASTUBARA fail to teach the invention of the instant application because they are shown to be of use in the connection of a thermoelectric material.

a. Applicant addresses the intended use of the material listed in the preamble to the claim. All the claim requires is the paste to be electrically conductive.

b. ALEXANDER also teaches the use of the paste comprising a metal and oxide in semiconductor devices in column 2, lines 47-51.

3. Applicant also argues there is no reason to make the combination of ALEXANDER and MASTUBARA to teach the electrically conductive paste of the instant application.

c. MATSUBARA teaches the oxide of the instant application to be of use as the legs of a thermoelectric device. The legs of the device are electrically connected using a metal paste capable of withstanding high heat. ALEXANDER teaches the electrically conductive paste comprising a metal oxide and metal material. This combination is obvious because the addition of a metal to any material oxide is known in the art to provide electrical conductivity. Since the oxide is known in the art to be used in thermoelectric structures and to conduct

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electricity itself, the use of the paste comprising this material would be an obvious variant.

4. Applicant also suggests on page 12 that the material shown in MATSUBARA is not the exact material disclosed in the instant application.

d. While MATSUBARA does disclose the addition of the dopant in table 1, the abstract states the primary material of use in the leg is the  $\text{Ca}_3\text{Co}_3\text{O}_9$ .

Regardless of the addition of the dopant impurity, the dopant is only able to substitute part of the lattice structure, leaving the majority of the material in the form of the  $\text{Ca}_3\text{Co}_4\text{O}_9$  material. This allows for the same material to be present for the manufacturing of the paste material.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KOURTNEY R. SALZMAN whose telephone number is (571)270-5117. The examiner can normally be reached on Monday to Thursday 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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hrs

2/11/2009

/Kaj K Olsen/

Primary Examiner, Art Unit 1795